



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/648,815	08/26/2003	William F. Howard	WEAT/0313	4562

36735 7590 10/21/2005

PATTERSON & SHERIDAN, L.L.P.
3040 POST OAK BOULEVARD, SUITE 1500
HOUSTON, TX 77056

EXAMINER

COLLINS, GIOVANNA M

ART UNIT	PAPER NUMBER
----------	--------------

3672

DATE MAILED: 10/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/648,815

Applicant(s)

HOWARD ET AL.

Examiner

Giovanna M. Collins

Art Unit

3672

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3, 10, 17, 18, 26 and 27 is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 4-9, 11-16 and 19-25 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. The indicated allowability of claims 1-3,10,17,18,26,27 is withdrawn in view of the newly discovered reference(s) to Howard et al. 2003/0159828 and Butler 5,607,016.

Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3,10,17, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Howard 2003/0159828.

Howard discloses (fig. 1) a downhole pumping apparatus, comprising; a wellbore having well fluids received therein from a formation into which said wellbore extends, said well fluid having a natural height within said wellbore and an interface between said well fluid and a second, lower density fluid, at a location spaced from a terminus of said wellbore; a pump (100) mounted within said wellbore and positioned intermediate said terminus and said interface; a controller (140) locatable at the surface of the well and

Art Unit: 3672

operatively attached to the pump; and a cooling zone (area below pump, as fluid rises in well it will cool) for cooling the well fluid located within said well wherein the pump is positioned above the cooling zone in that portion of the fluid that-is cooled in the wellbore.

Referring to claim 2, Howard discloses said cooling zone (below the pump 100) is located intermediate said pump and said terminus.

Referring to claim 3, Howard discloses said cooling zone (below the pump 100) further includes a pressure gradient in said well fluid.

Referring to claim 10, Howard discloses a method of pumping well fluids from a wellbore, providing a cooling zone (below pump 100) in a tubular in the wellbore; cooling (as fluid rises in well it will cool) at least a portion of the fluid in the tubular and positioning a pump above the cooling zone in said tubular in that portion of the fluid that is cooled in the wellbore.

Referring to claim 17, Howard discloses a establishing a pressure range for the operation of the pump; monitoring the pressure present at the pump; directing the pumping rate of the pump in response to the pressure at the pump (paragraph 0028).

Referring to claim 18, Howard discloses a wellbore (105) comprising; a generally vertical section extending from a well head location and into the earth; a footed wellbore section extending from said vertical section and having an entry section transitioning said footed wellbore section from the vertical profile of the vertical section to a footed section having a substantial horizontal component the intersection region of said transition section and said footed section forming a heel location; well fluids locating in

Art Unit: 3672

said footed wellbore; a pump (100) located in said wellbore adjacent said heel location; a controller (140) to control the pump; and a cooling zone (area below pump, as fluid rises in well it will cool) located intermediate said footed section and said pump wherein the pump is positioned above the cooling zone.

4. Claim 10 is rejected under 35 U.S.C. 102(b) as being anticipated by Butler 5,607,016.

Referring to claim 10, Butler discloses (fig. 3a) a method of pumping well fluids from a wellbore, providing a cooling zone (below pump 42) in a tubular in the wellbore; cooling (as fluid rises in well it will cool) at least a portion of the fluid in the tubular and positioning a pump (42) above the cooling zone in said tubular in that portion of the fluid that is cooled in the wellbore.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Butler '016 in view of Norris et al. 691.

Referring to claim 1 and 26, Butler discloses (fig. 3a) a downhole pumping apparatus, comprising a wellbore having well fluids received therein from a formation

Art Unit: 3672

into which said wellbore extends, said well fluid having a natural height within said wellbore and an interface between said well fluid and a second, lower density fluid at a location spaced from the terminus of said wellbore; a electric submersible pump (50) locatable within said wellbore and positioned intermediate said terminus and said interface; and a cooling zone (below pump 42, as fluid rises in well it will cool) located within said well (col. 7, lines 1-29) and pump is position above the cooling zone. Butler does not disclose a controller. Norris teaches a controller control a downhole pump operation to efficiently produce a desired rate of liquid removal (col. 2, lines 49-54). As it would be advantageous to efficiently produce a desired rate of liquid removal it would be obvious to one of ordinary skills in the art to modify the apparatus disclosed by Butler to have a controller as taught by Norris.

Referring to claim 2, Butler discloses said cooling zone comprises a cooling zone (below pump 42) located intermediate said pump (42) and said terminus.

Referring to claim 3, Butler discloses said cooling zone (below pump 100) further includes a pressure gradient in said well fluid.

Referring to claim 18, Butler discloses a wellbore, comprising, a generally vertical section extending from a well head location and into the earth; a footed wellbore section extending from said vertical section and having an entry section transitioning said footed wellbore section from the vertical profile of the vertical section to a footed section having a substantial horizontal component, the intersection region of said transition section and said footed section forming a heel location, well fluids located in said footed wellbore; a pump (42) located in said wellbore adjacent said heel location, and a cooling zone

Art Unit: 3672

(below pump 42) located in intermediate said footed section and the pump is position above the cooling zone. Butler does not disclose a controller. Norris teaches a controller control a downhole pump operation to efficiently produce a desired rate of liquid removal (col. 2, lines 49-54). As it would be advantageous to efficiently produce a desired rate of liquid removal it would be obvious to one of ordinary skills in the art to modify the apparatus disclosed by Butler to have a controller as taught by Norris.

3. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Butler '016.

Butler discloses a electric submersible pump (42) but does not disclose what material the components are made of. However, the selection of a known material based upon its suitability for the intended use is a design consideration within the skill of the art. In re Leshin, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). As it would be advantageous to use less expensive materials that low resistance to temperature based breakdown on components that are not exposed to high temperatures and the selection of a known material based upon its suitability for the intended use, it would obvious to one of ordinary skill in the art at the time of the invention to modify the apparatus disclosed by Butler to have components that low resistance to temperature based breakdown.

Art Unit: 3672

Response to Arguments

4. Applicant's arguments with respect to claims 1-3,10,17,18,26,27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Giovanna M. Collins whose telephone number is 571-272-7027. The examiner can normally be reached on 6:30-3 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David J. Bagnell can be reached on 571-272-6999. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


gmc


David Bagnell
Supervisory Patent Examiner
Technology Center 3670